Pitch Deck

Industrial Research, Development, and Commercial Production of Sweet Potato Starch Derivatives, Sweet Syrups, Adhesives, and Feed Formulations for Consumer and Agro-Allied Markets

Formal Pitch Deck for NASENI Grant Evaluation
Bayero University Kano (BUK)

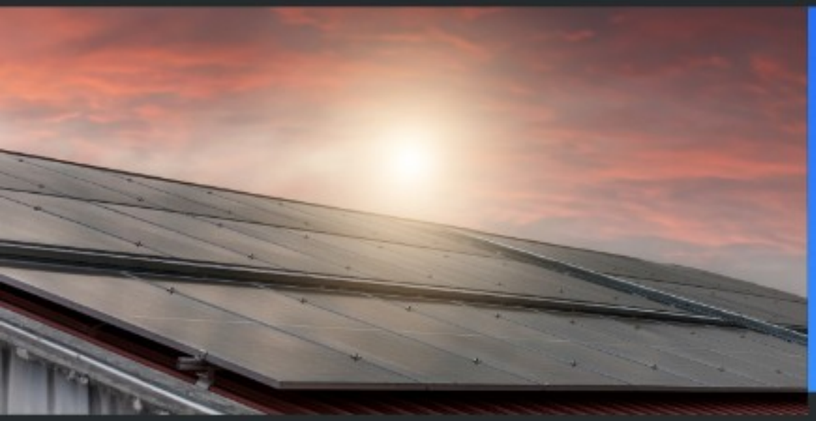
Date: 25th October 2025

Problem & Context

Main points:

- Nigeria produces ≈ 4 million tonnes of sweet potato yearly, but < 5 % is industrially processed.
- National dependence on imported starch/sweeteners costs ₦ 100 billion+ annually.
- Farmers face post-harvest losses > 30 %.
- There is no single industry in northern Nigeria that uses sweet potato as exclusive raw materials

Citation (footnote):
FAO (2023); AJOL (2024); Statista (2024).



Solution & Scope

- Establish a 500 kg/day pilot facility using stainless-steel locally fabricated machinery.

Convert sweet potatoes into:

- Native starch
- Cold-water-soluble (CWS) starch
- Concentrated sweet syrup
- Corrugated-board adhesive
- Nutrient-balanced animal feed

- Fully aligned with NASENI's Agriculture & Food Manufacturing thematic area.

Our vision is to provide clean, renewable energy that reduces carbon emissions and powers communities worldwide.

Market Opportunity ——— Key numbers:



Sector	2025 Value (USD)	CAGR %	Source
Packaging Industry	0.92 B	2.96	Research & Markets (2024)
Starch derivatives	574 M	5.2	Statista (2024)
Adhesives usage corrugated board	—	—	—

Product Lines & Use Cases

Product	Key Market Use	Packaging Format
Native Starch	Food & industrial formulations	25 kg bags
CWS Starch	Laundry / textile stiffening	Pillow sachets (100–250 g)
Sweet Syrup	Confectionery & beverage sweetener	1 L bottle
Adhesives	Corrugated board manufacturing	Barrels (25 kg eq.)
Animal Feed	Livestock nutrition blend	50 kg bags

Technology & Process Flow

Process sequence:

Sorting → **Washing** → **Wet Milling** → **Separation** → **Drying** → **Modification** → **Packaging**

Key equipment:

Pulper,
Hydrocyclone Separator,
Drum Dryer,
Mixing Reactor.

Material:

Stainless Steel (SS304) – food & industrial grade.

Design efficiency: 85–90 % utilization.

Citations: SON (2004) NIS 386:2004; NASENI Standards Manual (2024).

Competitive Advantage

- 100 % local raw material sourcing.
- Multi-product diversification → revenue stability.
- Zero-waste processing (feed from residues).
- Proven offtaker interest: Garba Doro & ARYK Pharm.
- Backed by published R&D (BUK team 2022-2024).

Financial Overview

Table: Capital & Operating Summary (₦)

Gross Revenue (₦ 0.4M/day) → COGS → OpEx → Net Profit (₦ 100K/day).

Assumption: 25 % profit margin; breakeven 12 months.

Item	Cost (₦)
40 KVA Generator	5,000,000
Pillow Packaging Machine	4,000,000
Borehole Construction	3,500,000
Site Preparation	3,000,000
Raw Materials	6,000,000
Fabrication & Tools	24,256,000
Logistics & Unforeseen	3,000,000
Total	**48,756,000**

Financial Projections

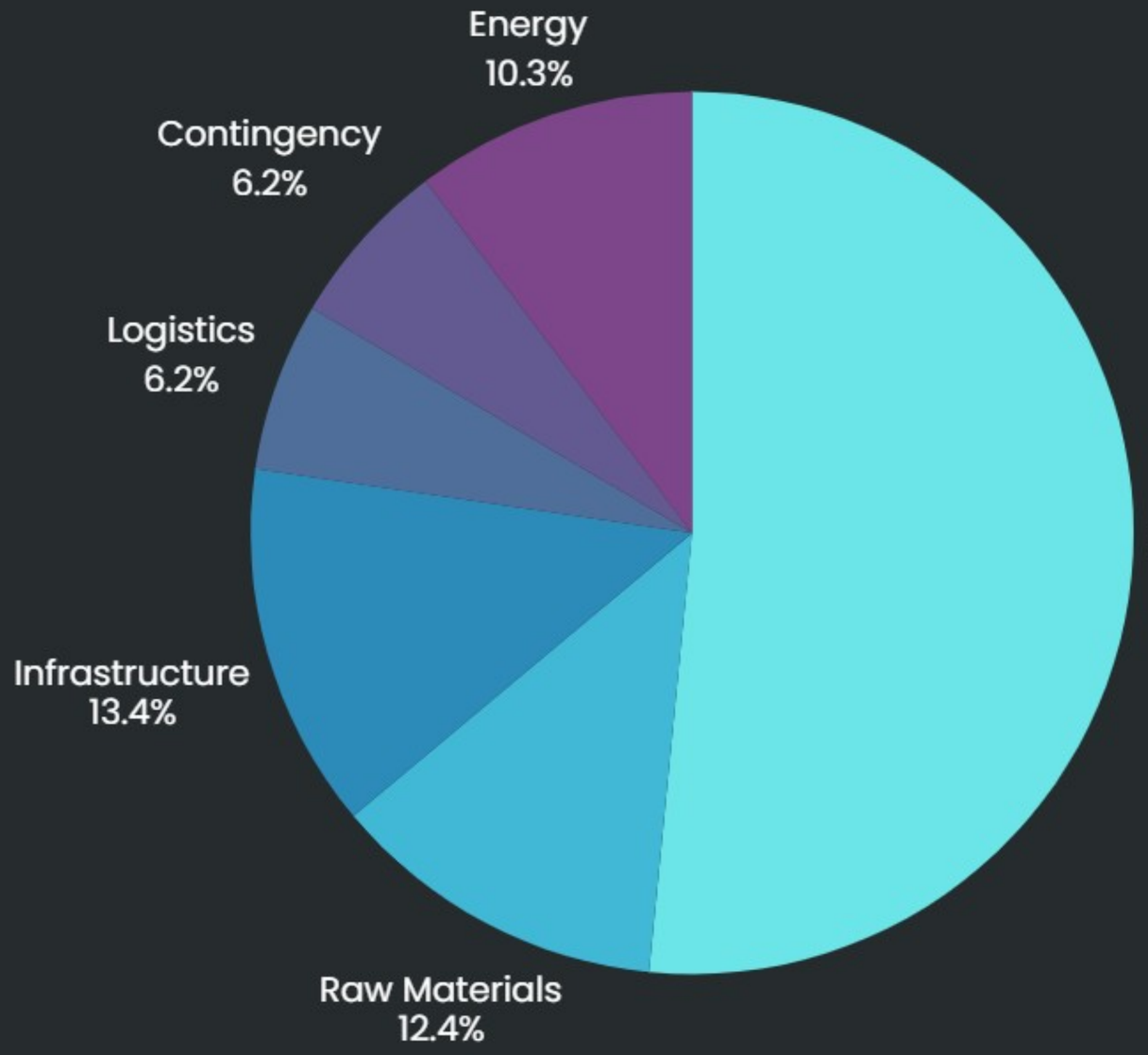
We are seeking ₦48.7 million in funding to scale our production capacity, expand into new markets, and accelerate R&D.

Year	Revenue (in ₦M)	Profit Margin (%)
2026	146	25%
2027	160	25%
2028	200	35%
2029	300	35%

Impact & Sustainability

- *Direct jobs = 25 Indirect jobs = 300*
- *Import substitution ≈ ₦ 100 B potential savings*
- *Waste reduction > 30 %*
- *Rural inclusion – farmer contracts in 3 states*

Funding Request & Utilization



Requested Grant from NASENI =
₦ 48,756,000

Matching equity (contributed in-kind equipment & research IP) ≈
₦ 6,000,000

Implementation Timeline (0–6 Months)

Month	Milestone
1–2	Site prep + equipment procurement + borehole
3–4	Installation + training + pilot testing
5–6	Full operation + market launch + QA certification
7 +	Scale-up planning + investor round

Expected Outcomes

- *Commissioned pilot plant (500 kg/day).*
- *Commercial supply of CWSS, syrups, adhesives, feeds.*
- *Demonstrated technology transfer model.*
- *Annual net profit ₦ 108 M with 25 % margin.*
- *Employment growth and import reduction targets met within 1 year.*

Team & Partners

Name	Role	Institution/Partner
Professor Hafiz Abubakar	**Project Lead**	**BUK**
Dr. Zulaiha G. Mukhtar	Co-principal Investigator	BUK / Life Sciences
Yusuf Ibrahim	Technical Coordinator	CLWCU
Engineer Sani Yusuf	Process/Production Manager	Kano State Polytechnic
Engineer Mariya Mustapha	Control System Manager	Kano State Polytechnic
Offtakers	Garba Doro, ARYK Pharm	Private Sector

References

1. *FAO (2023). Nigeria Agricultural Production Statistics. Rome: FAO.*
2. *Ajibade et al. (2024). Industrial Use of Sweet Potato Starch in Nigeria. AJOL.*
3. *Research & Markets (2024). Nigeria Packaging Market Report 2025–2030.*
4. *Statista (2024). Starch Derivatives Market Outlook Nigeria.*
5. *SON (2004). NIS 386:2004 Cassava Starch Specification. Abuja: Standards Organization of Nigeria.*
6. *Verified Market Research (2024). Nigeria Packaging Industry Forecast 2024–2032.*
7. *IJ Adhesives Science (2022). Corrugated Board Adhesive Consumption Metrics.*
8. *NASENI (2024). Agriculture & Food Manufacturing Priority Document.*

Thank You!

Together, let’s power a sustainable future.